



CODE OF PRACTICE

for

The Remediation of Timber-framed Exterior Walls with Monolithic Claddings

January 2021

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1. **Preliminary**

1.0 Representation

- This Code of Practice was prepared by an advisory group representing the NZ building industry and building owners, comprising the following entities:
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 - Representatives from BCAs
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The citation is to read: "Reproduced from the Code of Practice for the Remediation of Timber-framed Buildings"

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1.2 Comments and Notification of Errors or Omissions

Comment on information contained in this Code of Practice is welcome. Please send all comments to: bps@beal.co.nz

1.3 Document History

This Code of Practice for The Remediation of Timber-framed Exterior Walls with a Monolithic Cladding.

The Advisory Group will review and update the information contained in this Code of Practice when and as required. Refer to the BEAL website (www.beal.co.nz) for the most recent updates of information contained within this Code of Practice.

1.4 Disclaimer

Although the information contained in this Code of Practice has been obtained

from sources believed to be reliable, BEAL Professional Services Ltd. makes no warranties or representations of any kind (expressed or implied) with regard to the accuracy, adequacy, currency or completeness of the information, or that the information is suitable for any specific or intended use.

Compliance with this Code of Practice does not imply or guarantee immunity from breach of any statutory requirements, or the New Zealand Building Code.

This Code of Practice does not set out to restrict the use of any materials, system, or application method. The final responsibility for the correct selection, design and specification rests with the building owner and any appointed agents together with satisfactory execution by the appointed tradespeople.

1.5 Instructions to the BCA or Territorial Authority

While this Code of Practice is in part, the result of case histories, experience and testing, the decision to use a particular remedial product or system or method is the responsibility of the building owner.

Notwithstanding Section 2 of Part 1 of Schedule 1 of the Act, each Building Consent Authority (BCA) or Territorial Authority is responsible for assessing, on a case-by-case basis, the quality of information provided by the building owner in order to be “satisfied on reasonable grounds” that the relevant requirements of the Building Act and Building Code will be met.

This document is intended as reliable guidance and is not specific to any particular project. While the writers have taken care in preparing this document, it cannot be relied upon alone as establishing compliance with the Building Act and Building Code. Any application made for a Building Consent covering repair and maintenance of monolithic claddings installed over timber framing should be accompanied by documentation recommended in this Code of Practice.

1.6 Related Documents and Standards

The following documents may be useful guides in meeting the purpose of this Code of Practice. Users should ensure that they use the latest versions of relevant documents, including amendments, if any. New Zealand and joint Australian/New Zealand Standards, can be viewed on the Standards New Zealand website at www.standards.co.nz.

1.7 New Zealand Standards

- **NZS 3602:2003 Timber and wood-based products for use in building**
- NZS 3603:1993 Timber structures standard
- NZS 3604:2011 Timber framed buildings
- NZS 3640:2003 Chemical preservation of round and sawn timber
- NZS 4203:1992 Vols 1 and 2 General structural design and design loadings for buildings

1.8 Joint Australian/New Zealand Standards

- AS/NZS 1170.2:2002 Structural design actions – Wind actions
- AS/NZS 1604.3:2004 Specification for preservative treatment – Plywood
AS/NZS 2269:2004 Plywood – Structural
- AS/NZS ISO 9001:2015 Quality management systems – Requirements

1.9 Australian Standards

- AS 4055:1992 Wind loads for housing for other constructions

1.10 International Standards

- To be added as appropriate by the advisory group. Suggestions welcome.

1.11 Key Documents

- New Zealand Building Code, refer www.building.govt.nz

1.12 New Zealand Legislation

Building Act 2004

Building Regulations 1992 including the Building Code

1.13 Useful Websites

- American Society for Testing and Materials – www.astm.org
- Building Research – www.buildingresearch.org.nz
- British Standards Institute – www.bsi.co.uk
- European Committee for Standardization – www.cenorm.be
- European Union of Agrément. Also known as the European Union for Technical Approvals – www.ueatc.com
- International Union of Laboratories and Experts in Construction Materials, Systems and Structures – www.rilem.org
- Membrane Group NZ Inc. – www.membrane.org.nz
- Roofing Association of New Zealand – www.roofingassn.org.nz
- Standards Australia – www.standards.org.au
- Standards New Zealand – www.standards.co.nz

2. **Scope and Limitations**

2.0 Scope of application

- This Code of Practice covers the survey, remediation design, implementation and monitoring of timber-framed exterior walls with monolithic claddings
- It covers the training, quality control and record-keeping requirements of those participants of the work
- Should more than one professional entity (suitably qualified person) or contractor or any other party be involved with a remediation plan, each shall be responsible for the relevant requirements set out in this Code of Practice

2.1 Limitations

This Code of Practice for The Remediation of Timber-framed Exterior Walls with Monolithic Claddings is limited to buildings that:

- a) have been constructed above ground, with a (seismic) locality factor (Z) of up to 0.42 (Upper Hutt), in a temperate climate, with winds up to and including 55m/sec (Extra high);
- b) are no greater than three stories in height as per NZS3604; and
- c) the specified repair system is to be installed in accordance with the approved technical and RQP literature by those trained and approved by the supplier or manufacturer;
- d) the approval of any variation of the work covered by this Code of Practice shall be by a person suitably qualified as described in Section 8;
- e) While the remediation of other building elements such as decks, balconies and the like are outside the scope of this Code of Practice, subject to peer review by a suitably qualified person, a site-specific remediation plan for the other elements may be submitted as part of the building consent application.

[This Code of Practice recognises the option for a Territorial Authority to exercise its powers under Section 2 of Part 1 of Schedule 1 of the Act by providing a reliable process and appropriate requirements for information to be made available.]

3. **Definitions**

3.0 In this Code of Practice, the following definitions are applicable:

- **Code of Practice (COP)** means a set of written rules which explains how people working in a particular profession should behave
- **Cladding** means the assembly of those materials and parts that are installed over the wall underlay to provide a weather resistant exterior facade
- **Existing cladding** may comprise more than one cladding type
- **Owner of the Code of Practice (OCOP)** means the owner of the Code of Practice, which is based on written scheme rules - including oversight of registered users of this COP.
- **Remediation Plan** means a written document describing the materials, product systems, inspection methodology, remediation design methodology, training processes, and monitoring processes, that the building owner intends to use for the remediation solution.
- **Repair system** means materials, product systems, inspection methodology, remediation design methodology, training processes, and monitoring processes, that have been supplied by a supplier or manufacturer, incorporating written Technical and Installation Manual, RQP with Site Checklists and Record-keeping policies and practices.
- **Remediation Solution** means a generic methodology based on each of the stages and in accordance with the requirements of this Code of Practice
- **Suitably qualified person** means a person who can demonstrate their qualifications, including practical experience with the materials, design, methodology and technologies, to provide a durable and compliant remedial solution. Such persons will be able to verify their competence via client references together with suitable Professional Indemnity cover.

4. **Framework of Building Act and Regulations**

4.0 General

The Building Act 2004, upon which all building law is derived, states that all building work must comply with the requirements of the Building Code.

Exemption 1 and 2 of Part 1 of Schedule 1 of the Act sets out when an application for a Building Consent is not required. This includes general repair, maintenance and replacement work.

Where remedial work of a cladding is deemed to be “comparable” in nature, then an exemption is allowed.¹

Remedial work of a cladding shall not degrade the performance of the existing cladding. A remediation plan shall describe how this is achieved.

Where the use of remediation materials and parts are not deemed to be comparable in nature, then the Territorial Authority has discretion under Section 2 of Part 1 of Schedule 1 of the Act to allow for an exemption where it considers that—

- (a) the completed building work is likely to comply with the building code; or
- (b) if the completed building work does not comply with the building code, it is unlikely to endanger people or any building, whether on the same land or on other property.

The Building Act makes it the responsibility of the person who submits a building consent, to demonstrate compliance with the relevant provisions of the Building Code.

The Building Act provides three pathways to demonstrate compliance:

- a) by having a product or method that in all respects meets the requirements of an “Acceptable Solution” published by the Government, or,
- b) having a product or method that relies on a “verification method”, published by the Government, or,
- c) use of “an alternative solution”, such as a published Code of Practice, that can be used to demonstrate that the completed building work *is likely to comply with the building code*.

Since it is the responsibility of the person who intends to carry out building work to demonstrate compliance with the relevant provisions of the Building Code, a template for an application for a building consent for remedial work of timber-framed exterior walls with monolithic claddings based on the requirements of this Code of Practice is described in **Appendix B**.

5. **Purpose**

5.0 General

The purpose of this Code of Practice is to provide guidance for persons wishing to develop a remediation solution for timber-framed monolithic clad exterior walls. The walls may or may not have a cavity between the wall underlay and the cladding.

5.1 Compliance

The guidance provided in this Code of Practice is intended to ensure all building work will continue to comply with the relevant performance clauses of the New Zealand Building Code.

Typical Performance Clauses for this type of work include:

Clause B1- covering the structural performance of structural elements, including but not limited to framing, battens and cladding elements.

Clause B2 – covering the required durability of each component or system used to provide the solution

Clause E2 – covering the required prevention of moisture ingress through the exterior wall including all openings, penetrations and the like.

Clause F2 – this clause is relevant to ensuring that materials used do not present a health hazard to users of the building

Clause H1 – this clause may become relevant where the remediation materials used can be shown to improve the thermal performance of the exterior wall

Other clauses such as C3 may be relevant, such as for multi-dwellings and expert advice should be sought to determine the relevant clauses.

Note: It is not a purpose of this Code of Practice to address any issues that may become evident during the course of planned work in terms of the requirements of Clause E3.

5.2 Evidence

The supplier or manufacturer of a remediation solution shall provide:

- a) credible evidence that demonstrates compliance with each of the relevant code performance clauses;
- b) technical information including methods, materials, equipment, drawings, together with the roles of LBP's including designers, engineers and other professional supervisors or advisors who shall be suitably qualified persons;
- c) training and or competence requirements for persons carrying out the remedial work, with records of each;
- d) a RQP that includes checklists and records of the planned and completed work to be kept;
- e) any site-specific drawings and details used to ensure the correct installation of the remediation solution;
- f) a means of recording any deviations to the agreed plans or specifications.

The building owner shall obtain verification of competence of persons responsible for the design or advice or supervision of any part of the remedial solution, not part of the supplier or manufacturer of the remediation solution, before the remediation work commences.

5.3 Site Supervision

The supplier or manufacturer shall advise the owner that the installation work, including all preparation and design work, is overseen by an appropriately qualified person. Typically, such a person(s) will have been trained and or approved by the supplier or manufacturer of the selected remediation solution. Note that the Building Act requires a “Licensed Building Practitioner to design and or carry out and or supervise “restricted building work”. In this Code of Practice this means any work on building elements intended to provide a load-bearing (structural) function.

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6. **Building Owner and Management Obligations**

6.0 General

It is the building owner's responsibility to ensure all building work complies with the relevant performance clauses of the New Zealand Building Code.

6.1 Use of this Code of Practice

Where a building owner uses this Code of Practice to carry out a remediation plan, it is essential that they have their own copy for reference, throughout the progress of the project.

The owner may however employ the services of others to design and manage the project.

The owner shall ensure that all persons employed for the design and management of the remediation project, have their own copy for reference purposes.

The owner shall also ensure that those employed to design or manage the project have copies of all relevant product information.

The owner shall ensure that there is a suitably trained and approved person supervising the site work, who shall also complete all checklists and keep records as required in the manufacturer or supplier's RQP.

All such checklists and records shall be supplied to the owner who shall ensure their safe storage for future use.

6.2 Audits

The owner shall allow for the random audit of the remediation project by a representative of the owner of the Code of Practice and shall bear the reasonable costs related to the audit.

6.3 Confidentiality

The owner shall ensure all relevant information concerning the remediation project is kept confidential between the relevant parties but shall be made available for any reason to the owner of the Code of Practice. Such disclosure will be subject to a separate confidentiality agreement.

7. **Technical Requirements**

7.0 General

In order to ensure correct application of the planned remediation solution, a remediation plan is required to be written up. Such a plan may be prepared by the manufacturer, the supplier, a designer or other suitably qualified person.

Appendix A illustrates the components of such a plan.

Ideally, all relevant project documents should be filed in a robust ring-binder for easy access by the owner.

A remediation plan should record the technical documents relied upon together with their version number to avoid reliance on an older version. This includes all site specific drawings and the like. Where drawings and the like begin life as drafts, then the draft version number should be recorded on each.

Whenever a remediation project is for various reasons, found to take much longer than planned, there may need to be more than one person appointed as supervisor. This may need to be recorded in the plan records too.

In the event that the project is subject to unusual weather or other unanticipated event that affects the project, this should be recorded along with:

- a) explanation of the event;
- b) who is responsible for any corrective action with reasons;
- c) who needs to be informed;
- d) records of what was done, if anything, and the results.

Note: Typically, a 'site diary' will be kept by the supervisor or owner of all daily events.

8. Training and Supervision Requirements

8.0 General

In order to ensure correct application of the various stages of remediation work, use of competent trade persons and a trained and or competent site supervisor is essential.

As described under S5.2, the supplier or manufacturer of a solution shall provide:

- a) a description of the qualifications required of persons involved with the inspection, testing, remediation design and site supervision of the remedial work;
- b) training and or competence requirements for persons carrying out the remediation work, with records;
- c) a RQP that includes checklists and records of completed work to be kept;
- d) any site-specific drawings and details used to ensure the correct installation of the product;
- e) a means of recording any deviations to the agreed methods or materials during progress of the work.

Each of these requires the appropriate level of understanding and experience by a supervisor before commencing the project work.

It is the responsibility of the supplier or manufacturer of the remediation solution to ensure the **site supervisor** is trained and or competent to oversee the remedial work. Records of such training and or approval shall be kept by the supplier or manufacturer.

Approval of any variation of planned work covered by this Code of Practice shall be by a person approved by the supplier or manufacturer.

9. Quality Requirements

9.0 General

An essential tool to be used with this Code of Practice for the remedial work, is the manufacturer or supplier's Remediation Quality Plan. (RQP).

Typically, such a RQP will include –

- Name of the materials, equipment and technologies to be used
- Date and version number of the written remediation plan
- Name of the manufacturer or supplier
- Contact details
- List of persons deemed to be suitably qualified persons
- Name of the person responsible for the implementation of the RQP
- Specifications of the product and or key components
- Reference to any generic remediation technical manual (with version number) – which shall include
a description of how the new cladding system does not adversely affect compliance of the building
- Requirements for identification, such as batch numbers or the like
- List of key risks, starting with the ordering process and ending with a check on the completed work
- Training requirements of workers other than the supervisor, if needed
- Training and competence requirements of the Supervisor
- Checklists to be completed
- Records such as photos and the like to be recorded, before, during and on completion of the work
- A description of where records are to be stored for future access and use, together with how these records are to be kept secure
- Who is responsible when there is a problem with the quality of the product or installation
- Record of complaints
- Reference to third-party product certification or the like².

Where the existence of an appropriate technical / installation manual and or a RQP is missing or unclear, the owner shall write to the supplier or manufacturer insisting on one being provided, before completing the project planning stage.

10. **Records of Work**

10.0 General

A manufacturer or supplier's RQP needs to describe all details and instances where records of work shall be obtained. Records covering the ordering of materials or product systems, assigning responsibility for the inspection methodology, remediation design methodology, training processes, and monitoring processes, shall be kept.

While photos and the like may be recorded on tablets and smart phones, these records need to be backed-up and or transferred on an agreed frequency to ensure integrity of the record-keeping process.

Typically, it is the responsibility of the site supervisor to collect and store such records. However, the supervisor may make arrangements for some records to be collected by others and transferred on an agreed frequency to a safe storage.

The supervisor needs to have a plan how these records are to be transferred to a safe storage, including to the owner, so that in the event of an unexpected event, the required records are collected and stored safely.

Note: Some cloud based mobile device QA apps may be useful for this purpose. These should be checked for reliability before being relied upon.

¹ Note that completion of remedial work, in accordance with this Code of Practice, shall be evidence for satisfying the durability requirements of the Building Code.

² Note that reliance on third-party certification or the like, may include a COP owner approved User of this obligations, which the building owner should be aware of, before committing to commencing a remediation project.

